REMARKS/ARGUMENTS

Claims 1-5 and 7-11 are pending in the application. Claims 13-18 have been allowed. No amendment is currently being made. Reconsideration and allowance of claims 1-5 and 7-11 in view of the following remarks is respectfully requested.

The rejection of claims 1-5 and 7-11 under 35 U.S.C. § 103:

The Examiner has rejected claims 1-5 and 7-11 under 35 U.S.C. § 103. Specifically, the Examiner has objected to claims 7-10 as being unpatentable over Gollner (U.S. Pat. No. 6,339,928) in view of Fluid Power Design Handbook, claims 7-9 and 11 as being unpatentable over Gollner in view of Fluid Power Design Handbook, and claims 1-4 as being unpatentable over Meier in view of Gollner and Fluid Power Design Handbook.

All of the Examiner's § 103 rejections are based on a combination of Gollner in view of Fluid Power Design Handbook.

An obviousness analysis begins in the text of § 103 with the phrase "at the time the invention was made." For it is this phrase that guards against entry into the "tempting but forbidden zone of hindsight when analyzing the patentability of claims pursuant to that section. See Loctite Corp. v. Ultraseal Ltd., 781 F.2d 861, 873, 228 U.S.P.Q. 90, 98 (Fed. Cir. 1985), overruled on other grounds by Nobelpharma AB v. Implant Innovations, Inc., 141 F.3d 1059, 46 U.S.P.Q.2d 1097 (Fed. Cir. 1998). Measuring a claimed invention against the standard established requires the often difficult but critical step of casting the mind back to the time of the invention, to consider the thinking of one of ordinary skill in the art, guided only by the prior art references and then-accepted wisdom in the field.

See, e.g. W.L. Gore & Assoc., Inc. v. Garlock, Inc., 721 F.2d 1540, 1553, 220 U.S.P.Q. 303, 313 (Fed. Cir. 1983). Close adherence to this methodology is especially important in the case of less technologically complex inventions, where the very ease with which the invention can be understood may prompt one "to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against the teacher." Id.

The best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references. See, e.g., C.R. Bard, Inc. v. M3 Sys., Inc., 157 F.3d 1340, 1352, 48 U.S.P.Q.2d 1225, 1232 (Fed. Cir. 1998) (describing "teaching or suggestion or motivation [to combine] as an essential evidentiary component of an obviousness holding") combining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability - the essence of hindsight. See, e.g. Interconnect Planning Corp. v Feil, 774 F.2d 1132, 1138, 277 U.S.P.Q. 543, 547 (Fed. Cir. 1985) ("The invention must be viewed not with the blueprint drawn by the inventor, but in the state of the art that existed at the time.") In this case, the Examiner has fallen into the hindsight trap.

Evidence of a suggestion, teaching or motivation to combine may flow from the prior art references themselves, the knowledge of one of ordinary skill in the art, or, in some cases, from the nature of the problem solved, although the suggestion more often comes from the teachings of the pertinent references. Rouffet, 149 F.3d at 1355. The range of sources available does not

diminish the requirement for actual evidence. That showing must be clear and particular. See, e.g., C.R. Bard, 157 F.3d at 1352. Broad conclusory statements regarding the teaching of multiple references, standing alone, are not evidence. e.g., McElmurry v. Arkansas Power & Light Co., 995 F.2d 1576, 1578, 27 U.S.P.Q.2d 1129, 1131 (Fed. Cir. 1993) ("Mere denials and conclusory statement, however, are not sufficient to establish a genuine issue of material fact.").

The Examiner's decision is based on a discussion of the ways that the multiple prior art references can be combined on the claimed invention. Yet this reference by reference, limitation by limitation analysis fails to demonstrate how one of ordinary skill in the art would be motivated to modify the Gollner reference based on the information in Fluid Power Design Handbook. (Decker Publication) For example, the drawing of the hydraulic schematic in Gollner indicates the proper symbol for proportional control valves on the activation valves for pump, (Fig. 3 # 9) but indicates a non-proportional valve for the flush valve (electrical two-position valve for loop flushing) (Fig. 3, # 21). Additionally, the Gollner reference limits the functionality of both the valve 21 and digital computer 1 to strictly "on" or "off" (Gollner, col. 2, 28-31, "Via its software, the *computer switches the flush valve on* if the vehicle speed or the rotational speed of the combustion engine or the temperature of the hydraulic fluid in the variable displacement pump are high (emphasis added)). Thus, due to the non-proportional nature of the Gollner electric controls and two-position valve, a person of ordinary skill in the art would not be motivated to apply a proportionally adjustable valve without the blueprint of the present invention. Further, as a person of ordinary skill in the art, Gollner chose to use a

flushing valve that provided non-proportional operation. In this respect, Gollner itself teaches away from the proposed combination. This is a point that the Examiner did not address in the Final Office Action. See Pro-Mold & Tool, 75 F.3d 1568, 1573, 37 U.S.P.Q.2d. 1626, 1630 (Fed. Cir. 1996).

The Examiner attempts to cure Gollner with the teaching of the Fluid Power Design Handbook. To justify this combination, the Examiner asserts that chapter 5 of the Fluid Power Design Handbook teaches that a modulated electrical flow control valve and a proportional spool valve are functionally equivalent. More specifically, the Examiner relies on the sentence, "the choice is among on-off solenoid valve, proportional solenoid valves, servo valves, and step-motor valves" (Fluid Power Design Handbook, Chapt. 5, first sentence) to support the conclusion that "[o]ne having ordinary skill in the hydraulic circuit control art would recognize that all the valves discussed in this chapter perform essentially the same function. Applicant cannot agree. The Examiner has identified an introductory sentence to chapter 5, "Electrohydraulic Valves and Servosystems," which suggests only that there are several varieties of electrohydraulic valves. Specifically, Fluid Power Design Handbook notes that the "proportional solenoid valve" is in a separate "category" from modulated electrical flow control valves. See page 82, paragraph 5. Additionally, Fluid Power Design Handbook notes that such "proportional solenoid valves" are "complex" while modulated electrical flow control valves operate to modulate flow by "rapidly opening and closing the valve passage" (Fluid Power Design Handbook, p. 82, para. 3 and 5). Additionally, in the discussion of modulated on-off valves, at page 83, paragraph 3 - page 84, paragraph 1, Fluid Power Design Handbook does not mention anywhere that such a modulated

on-off valve could desirably be replaced with a proportional solenoid valve. In contrast, in discussing the "proportional solenoid valves" at page 84, paragraph 2 - page 87, paragraph 10, Fluid Power Design Handbook extensively discusses the interchangeability and reason for selecting between proportional solenoid valves and a fourth category of valves of a "servovalve". Nowhere in the discussion of "proportional solenoid valves" does Fluid Power Design Handbook teach or suggest that modulated on-off valves are understood in the art to be substantially equivalent to "proportional solenoid valves", and in fact fails to mention the modulated on-off valves anywhere in the detailed discussion of the "proportional solenoid valves" beginning at page 84. Accordingly, as Fluid Power Design Handbook discusses the interchangeability of "proportional solenoid valves" with "servovalves" but fails to discuss any interchangeability between "proportional solenoid valves" with "modulated on-off valves", Applicant submits that the Fluid Power Design Handbook teaches away from substituting a "proportional solenoid valve" for the Item 21 (electrical two-position valve) of Gollner. As the Fluid Power Design Handbook teaches away from the proposed modification of Gollner, the Examiner's conclusion of obviousness as a matter of law, cannot stand.

In combining Gollner with Fluid Power Design Handbook, the Examiner notes that Gollner discloses a non-proportional electric valve. (Gollner, col. 3, l. 13, discussing an electrical 2-position valve for loop flushing). The Examiner notes that the electrical two-position valve 21 is not disclosed as an electrically proportional control valve, as claimed by Applicant. However, the Examiner concludes that although Gollner uses a non-proportional valve that is controlled through

modulation, the amount of flow is controlled and will perform efficiently compared to the present invention. Applicant asserts Examiner is mistaken in his conclusion. The control means of the Gollner reference is a digital computer 1 that sends only a switch-on or switch-off output to the two-position valve 21 (Gollner, col. 5, ll. 10-16). Thus, the two-position valve 21 of Gollner only permits a fully open or a fully closed flow condition, and does not provide for proportionally regulating the flushing flow of the closed loop circuit. Conversely, the "electrical proportional flow control valve" of claims 1 and 7 is driven by a control system 27 that can accurately control the loop flushing flow by actuating the valve 26 within the proportional range (p. 8, ll. 8-22). Specifically, the ability to "intelligently select the loop flushing flow" is enabled by the proportionality of the valve; therefore, creating efficiencies within the system (p. 3, ll. 13-23).

Regarding claims 1-5, the combination of Meier in view of Gollner in view of Fluid Power Design Handbook, fails for at least the reasons discussed above of Fluid Power Design Handbook failing to cure Gollner of its lack of an "electrically proportional control valve". Further, Meier does not cure Gollner of this deficiency, as like Gollner, Meier teaches the use of a single-nonproportional electrical valve to control loop flushing flow. See Applicant's specification at page 3, lines 15-17. "Because a non-proportional electrical valve is used, an operator is unable to intelligently select the loop flushing flow. Because the '923 device is unable to intelligently select the loop flushing flow, under certain conditions the closed loop will perform inefficiently compared to the present invention. Therefore, the present invention is considered an improvement

over the '923 device." See page 3, lines 17-23, of Applicant's specification. Thus, because Meier and Fluid Power Design Handbook fail to cure Meier of failing to teach an electrically proportional control valve, the obviousness rejection cannot stand.

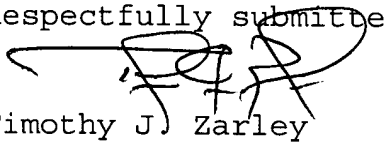
Likewise, dependent claims 2-5 and 8-11 are also novel and not obvious due at least to their dependence on independent claims 1 and 7, respectively.

Conclusion:

In view of the above amendments and remarks, Applicant respectfully request allowance of claims 1-5 and 7-11.

No fees or extensions of time are believed to be due in connection with this amendment; however, consider this a request for any extension inadvertently omitted, and charge any additional fees to Deposit Account 50-2098.

Respectfully submitted,



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